AMENDMENT TO CLAIMS

Please amend claims 1 and 35-39, as shown below. All pending claims are reproduced below, including those that remain unchanged.

1. (Currently amended) A method for shaping a surface of a workpiece, comprising:

positioning at least one of a workpiece and an inductively-coupled plasma (ICP) torch, which does not require an electrode; and

shaping the surface of the workpiece by using reactive atom plasma processing to:

transfer energy from a radio frequency (RF) power source to create and sustain a plasma discharge from the plasma torch; and

add material to the surface of the workpiece and modify the surface with the discharge from the plasma torch.

2. (Original) A method according to claim 1, wherein:

the step of using reactive plasma processing to modify the surface of the workpiece further includes modifying the surface of the workpiece by at least one of etching, polishing, cleaning, planarizing, and removing material from the surface.

3. (Original) A method according to claim 1, further comprising:

altering the chemistry of the surface of the workpiece with the plasma.

4. (Original) A method according to claim 1, wherein:

the step of using reactive plasma processing to shape the surface of the workpiece causes minimal or no damage to the workpiece underneath the surface.

5. (Original) A method according to claim 1, further comprising:

rotating the workpiece with respect to the plasma torch.

6. (Original) A method according to claim 1, further comprising:

creating a reactive species in the plasma.

7. (Original) A method according to claim 1, further comprising:

placing a precursor in a central channel of the plasma torch.

8. (Original) A method according to claim 1, further comprising:
controlling the mass flow of a precursor into the plasma from between about 0 ml/min to about 2,000 ml/min.

9. (Original) A method according to claim 1, further comprising:
controlling the mass flow of a precursor into the plasma from between about 0 ml/min to about 50,000 ml/min.

10. (Original) A method according to claim 1, further comprising:
selecting a concentration of precursor to be introduced into a central channel of the plasma.

11. (Original) A method according to claim 1, further comprising:
introducing a plasma gas through an outer tube of the plasma torch.

12. (Original) A method according to claim 1, further comprising:
coupling energy to the discharge in an annular region of the plasma torch.

13. (Original) A method according to claim 1, further comprising:
introducing an auxiliary gas through a second of three concentric tubes in the plasma torch.

14. (Original) A method according to claim 1, further comprising:
using an auxiliary gas to keep hot plasma away from a central channel of the plasma torch.

15. (Original) A method according to claim 1, further comprising:
using an auxiliary gas to adjust the position of a discharge.

16. (Original) A method according to claim 1, further comprising:
introducing a plasma gas tangentially.

17. (Original) A method according to claim 1, further comprising:
maintaining the temperature of the plasma between 5,000 and 15,000 degrees C.

18. (Original) A method according to claim 1, further comprising:

producing a volatile reaction on the surface of the workpiece.

19. (Original) A method according to claim 1, wherein:
the step of using reactive atom plasma processing occurs at about atmospheric pressure.

20. (Original) A method according to claim 1, further comprising:
using a precursor to control the etch rate of the plasma, the precursor being any one of a solid, liquid, or gas.

21. (Original) A method for planarizing a surface of a workpiece, comprising:
translating at least one of a workpiece and a plasma torch;
depositing material on the surface of the workpiece using the plasma torch;
removing material from the surface of the workpiece using a discharge from the plasma torch; and
using reactive atom plasma processing to redeposit the removed material on the surface of the workpiece.

22. (Original) A method according to claim 21, further comprising:
introducing reactive species into the plasma through a central channel in the plasma torch.

23. (Original) A method according to claim 21, further comprising:
placing a precursor in a central channel of the plasma.

24. (Original) A method according to claim 21, further comprising:
controlling the mass flow of a precursor into the processing chamber.

25. (Original) A method according to claim 21, further comprising:
selecting a concentration of precursor to be introduced into a central channel of the plasma.

26. (Original) A method according to claim 21, further comprising:
introducing a plasma gas through an outer tube of the plasma torch.

27. (Original) A method according to claim 21, further comprising:
coupling energy to the discharge in an annular region of the plasma torch.

28. (Original) A method according to claim 21, further comprising:

introducing an auxiliary gas through a second of three concentric tubes in the plasma torch.

29. (Original) A method according to claim 21, further comprising:

maintaining the temperature of the plasma.

30. (Original) A method according to claim 21, wherein:

the depositing and removing steps occur at atmospheric pressure.

31. (Original) A method according to claim 21, further comprising:

altering the chemistry of the surface of the workpiece with the plasma.

32. (Original) A method according to claim 21, further comprising:

controlling the removal rate at which material is removed from the surface of the workpiece.

33. (Original) A method according to claim 21, further comprising:

controlling the deposition rate at which material is deposited onto the surface of the workpiece.

34. (Original) A method according to claim 21, further comprising:

controlling the redeposition rate at which material removed from the surface during processing is redeposited on the surface.

35. (Currently amended) A method for cleaning a surface, comprising:

positioning at least one of a workpiece and an inductively-coupled plasma (ICP) torch, which does not require an electrode; and

cleaning the surface by using reactive atom plasma processing to:

transfer energy from a radio frequency (RF) power source to create and sustain a plasma discharge from the plasma torch; and

deposit and remove material from the surface of the workpiece.

36. (Currently amended) A method for redistributing a material on a surface, comprising:

translating at least one of a workpiece and an inductively-coupled plasma (ICP) torch, which does not require an electrode; and

using reactive atom plasma processing to:

transfer energy from a radio frequency (RF) power source to create and sustain a plasma discharge from the plasma torch; and

deposit and redistribute material on the surface of the workpiece.

37. (Currently amended) A tool for shaping the surface of a workpiece, the tool being able to accomplish the following steps:

positioning at least one of the workpiece and an inductively-coupled plasma (ICP) torch, which does not require an electrode; and

shaping the surface of the workpiece by using reactive atom plasma processing to:

transfer energy from a radio frequency (RF) power source to create and sustain a plasma discharge from the plasma torch; and

deposit material on the surface of the workpiece and modify the surface with the discharge from the plasma torch.

38. (Currently amended) A tool for shaping the surface of a workpiece, comprising:

means for translating at least one of a workpiece and an inductively-coupled plasma (ICP) torch, which does not require an electrode; and

means for using reactive atom plasma processing to:

transfer energy from a radio frequency (RF) power source to create and sustain a plasma discharge from the plasma torch; and

deposit material on the surface of the workpiece and modify the surface with the discharge from the plasma torch.

39. (Currently amended) A tool for shaping the surface of a workpiece, comprising:

an inductively-coupled plasma (ICP) torch, which does not require an electrode;

a translator that can translate at least one of a workpiece and said torch; and

wherein said torch is configured to deposit material and modify the surface of a workpiece using a reactive plasma process, which transfers energy from a radio frequency (RF) power source to create and sustain a plasma discharge from the plasma torch.

40. (Previously presented) A method according to claim 1, further comprising:

translating at least one of the workpiece and the plasma torch.